
Book Reviews

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Howard E. Aldrich, *An Evolutionary Approach to Entrepreneurship: Selected Essays*, Cheltenham, UK: Edward Elgar, 2011, 595 pp.

Howard Aldrich, Kenan Professor of Sociology, University of North Carolina, Chapel Hill, USA, has been a significant factor in the growing interest in the application of evolutionary approaches to the study of entrepreneurship. His 1999 book, *Organizations Evolving* (Sage, London), provided new framework for understanding the study of organisations. A collection of his papers, accessible at one place, will naturally be of great interest to researchers and scholars of entrepreneurship. The book has 23 papers, apart from a brief introduction and a conclusion, covering five themes: the need for better theory, social networks, strategy, gender and family, and stratification and inequality. Thirteen of the 23 papers were published in 2000 or later, two were brought out in the 1980s and the remaining eight were published in the 1990s. Taken together, these papers provide the reader with not only a rich variety of ideas and concepts, but also an understanding of how the work of a scholar evolves over time. The author's comments on this evolution in the introduction (pp. xi to xiv) indicate how a research agenda, stable at the core, but open to new inputs and ideas, gets sustained over a lifetime. Many of the papers are co-authored by Aldrich's colleagues, indicating the collective nature of the enterprise that an application of evolutionary theories to entrepreneurship has come to be. On the whole, the book presents a valuable collection that should provide scholars with a sound base for further research in the application of evolutionary theories to the study of entrepreneurship.

What exactly is an evolutionary approach to entrepreneurship? A brief digression will benefit the reader. 'Evolution' evokes images of biology and Darwinism, and it is important to understand these roots before evolution can be applied to other sciences and entrepreneurship. Two concepts are central: the genotype or the material inherited by an individual unit, for example genes, which can be passed on to future generations, and the phenotype, or the characteristics of the individual which cannot be passed on genetically—'the bodily manifestation of a gene' (Dawkins, 1989/2005: 235). Thus, the phenotypic effect of a particular gene may be curly hair. Looking at how the two concepts interact, we may identify three processes: (a) variation of genotypes; (b) a process of 'natural selection', which favours some genes because of their phenotypic effects, which provide a better fit with the environment; and (c) retention of the genotype underlying favourable phenotypic effects. These three processes constitute evolutionary change. This, in a nutshell, is at the core of the evolutionary approach, at least in biology. Applying this approach to the social sciences is not without its difficulties, but the framework called 'Universal Darwinism' provides a way out—at a sufficiently high level of abstraction, the Darwinian principles of variation of genotype, the consequent selection of the most favourable phenotype, and retention of the genotype responsible (for further transmission) can be applied to any evolving system. In this framework, the term replicator is substituted for the genotype or material of which copies can be made of, and the term interactor is used for entities that interact as a whole with the environment in a manner that causes 'differential replication'. What can be counted as replicators and interactors? While there are many recommendations on what can be taken to be replicators, serious candidates include organisational routines (formally or informally understood rules of behaviour that determine patterns of behaviour) and organisational competence elements (knowledge units that determine organisational know-how). The firm itself, interacting with its environment, is usually treated as the interactor. What happens to the replicators and interactors, through the processes of variation, selection and retention, is the focus of an evolutionary approach. This approach, insofar as it applies to the study of entrepreneurship, has been employed at two levels, the population level which leads to the environmental determinism or the population ecology perspective, and the organisational level which deals with

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the strategic choice perspective (Breslin, 2008: 400). In the latter, the intentionality of entrepreneurs plays a greater role in determining the success of individual entrepreneurs; in the former, environmental selection plays a decisive role. However, as Breslin notes, these are not 'either or' perspectives; the interaction of the two levels is what will lead to fruitful future research in entrepreneurship.

Aldrich, while not ignoring the two levels, has made significant contributions in the application of an evolutionary approach to the population level. His reading of the application of the evolutionary approach is described on pages xiv–xv (all quotations in this paragraph are from these pages). To summarise, 'At the heart of evolutionary thinking is the assumption that a struggle by entrepreneurs and organizations to obtain scarce resources, both social and physical, drives evolutionary processes'. Two other principles are important: 'outcomes result from the interaction between organizations and environments, rather than being attributable to either...taken separately'; selection 'derives from the *consequences* of actions, not the *intentions* of actors'. The latter is squarely in line with the preference for the genotypic variations that result in favourable phenotypic effects—the nature of the genes does not matter, their consequences matter, but is difficult to grasp, since the tendency is to over-privilege intentionality of actors. Competitive struggles can also lead to the need for cooperation with other organisations, when some new elements introduced by selection make such cooperation imperative. It is within this context of competition and cooperation that the processes of variation, selection and retention drive the course of evolution. This evolution is at multiple levels—'within and between organizations, within organizational populations, and across communities of populations'. Each of these levels can be sources of variation and selection. This complexity makes the application of an evolutionary approach to entrepreneurship fascinating.

Different essays in the book touch on the various aspects of the evolutionary approach outline above. The book opens with an introductory chapter, which provides insights on the role of organisational populations in modern society, the need for context-based explanations of organisational phenomena, rather than intention-based explanations, and the need for event-driven explanations, which are 'built forward, from observed or recorded events to outcomes' (p. 7). The rest of the book deals with five themes.

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The part titled 'Theory' has four papers. Taken together, these argue for the role of theoretical explanations which privilege contextual factors. The first paper notes that the outcomes that ethnic groups end up with must be placed in a historical and comparative context to understand why ethnic entrepreneurship succeeds or fails. The second cautions against turning to personal characteristics as sole heroic explanatory factors—most entrepreneurial efforts are unremarkable; innovative entrepreneurship is not that frequent. The other two papers deal with how the contextual effects of time and place help explain the heterogeneity that exist among organisations, and with new institutional theory's limitations in providing a comprehensive explanation of entrepreneurship.

The second theme deals with social networks and their role in the creation of entrepreneurial teams. The first chapter in this section argues for not discounting the relational nature of entrepreneurship, which is 'embedded in a social context, channelled and facilitated or constrained and inhibited by people's positions in social networks' (p. 122). This chapter also illustrates the processes of variation and selection well. The second paper extends this theme and shows why particular networking strategies are more suitable for start-ups. The third chapter shows how women entrepreneurs are no different from men when it comes to help seeking and evaluating that help. The fourth paper examines organisational founding teams: if sex, race and occupation were not that critical, would the composition of founding teams be different from what they actually were? This paper shows that homophily, 'people joining with similar others', is an important principle in team formation. The next two chapters build on this theme. The six chapters in this section illustrate the role of social context and ties within that context, and the importance of homophily in team formation.

The third theme is 'Strategy'. This section discusses the creation of new organisational populations and communities. What are the liabilities of being small and new, versus big and old? And how can the older organisations learn from the advantages that the newer ones have? What are the advantages of being new and autonomous in turbulent or stable environments? The first two chapters deal with these questions. The third, an oft-cited 1994 paper, 'Fools rush in? The institutional context of industry creation', shows that in a new industry, new organisations are faced with the liabilities of newness. Entrepreneurs in a new industry do

not have cognitive and socio-political legitimacy, and collective action to enhance the legitimacy of the entire industry is a useful strategy to adopt. The next two papers build on this paper with examples from the commercialisation of the web and application service providers. The latter, a 2003 paper, is one of the earliest papers to discuss the legitimacy concerns of the then new industry of providing applications to firms over the internet.

Three papers deal with the theme 'Gender and Family'. The first paper explores the reasons for the neglect of women entrepreneurs in the media and scholarly journals. The second paper explores the association between men's and women's social capital and their likelihood of setting up an enterprise. A high proportion of kin and homogeneity in the network (as in the case of women) is a disadvantage when it comes to setting up new businesses. The final paper deals with the family embeddedness perspective on new businesses, showing that families and businesses, as institutions, are closely connected.

The final theme, 'Stratification and Inequality', is addressed through four papers—and combines the evolutionary approach with a 'life course' approach. The first paper, in spite of results that indicate that parental property may not be resources differentiating children of self-employed parents from others, speculates that entrepreneurial capital is indeed a critical resource for starting new ventures. The next paper builds on this theme of what parents can really do, given the life-course constraints. The third paper shows that, in the US context, financial resources do not seem to be a constraint on entrepreneurial entry, rather, high levels of human capital may be more significant. The final paper starts with the proposition that nations with high levels of economic inequality show high rates of entrepreneurship, and explores the dimensions of this relationship.

All the 23 papers, and the brief conclusion that follows, reflect a concern with the study of variation, selection and retention, the three key processes that define the evolutionary approach. The interaction of the context, or the environment, with the firm (or interactor) is central in determining which favourable phenotypes need to be selected and thus which underlying genotypes or replicators need to be favoured for retention. This lesson runs through the book. The individual chapters illustrate the three processes to varying degrees. The chapters that touch on the

role of new and budding entrepreneurs and the role of collective action, including networks, highlight the importance of these factors as sources of variation. As noted above while discussing the theme of 'Theory', innovative entrepreneurship, in contrast to reproducer entrepreneurship, is relatively infrequent. So, what is the relative importance of reproducers vis-à-vis innovators in ensuring stability of routines and competences (the replicators) while allowing the innovators to introduce desirable variation into the population? More research on the nature of the replicators will help us understand the 'genotype' of organisations better.

In the conclusion, the author highlights the importance of selection—this process is particularly addressed in the chapters on the theme of 'Strategy'. He notes two issues related to selection: What are the conditions under which different units of selection are more likely to be favoured? Do levels of analysis represent selection filters? These are interesting questions. If organisational routines and competencies, as units of selection, are seen not as specific to a firm, but as population level replicators which reside in different organisations, then disaggregating one's own routines and competencies, thus enabling borrowing from other organisations, becomes possible. Some of the chapters in the 'Strategy' section address this issue clearly. Second, levels of analysis other than the firm—networks and populations—can function as units of selection. This is touched upon in a few chapters, but future research may examine the question of supra-firm level units of selection more closely.

The third process, retention, is illustrated in many chapters. Retention, which permits the reproduction of selected variations, also provides constraints on variation, so that the selected variations do not dissipate too fast. But then, organisations need to be open to outside influences so that the selected variations do not become dysfunctional and reified. Variation and consequent selection would take care of this problem. At a higher level, retention processes also influence reproduction of socio-economic inequality, as the chapters in 'Gender and Family' and 'Stratification and Inequality' illustrate. The effects are contradictory—while organisations do reproduce social inequality by providing social capital to its members, an equalising effect is also possible—new foundings which do not depend on socio-economic status (Chapter 20) or create new populations (as has happened in the case of Information Technology entrepreneurs)

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can create new socio-economically advanced groups. At yet another population level, the totality of retention mechanisms, across different organisational forms, results in a diversity of routines and competencies that are retained. Non-market organisations like academic institutions are known and notorious for retaining routines that for extended periods of time would be considered 'useless'. Many other routines may lie dormant in certain organisations, because of certain retention processes that preserve them. When entrepreneurs decide to dip into these 'useless' or dormant routines and competencies, variation kicks in.

In sum, the chapters in the book illustrate how, within the context of competition and cooperation, the processes of variation, selection and retention drive the course of evolution at multiple levels (the organisational, organisational population level, and communities of populations), each acting as a source of variation and selection. The chapters need to be read carefully to identify how the processes of evolution operate at the organisational and population levels. What is a desirable variation, how the process of evolutionary selection happens, and how retention operates, may not be always readily apparent in every particular case. But once the elements of the evolutionary approach are fixed at the back of the mind, the chapters would be easy to read and insightful. One minor issue which detracts from the readability is the facsimile nature of the articles. They seem to be in their originally published form; this leads to a lot of variation in font size, format of presentation, and clarity of reproduction. But then perhaps this is to be expected in a book on an evolutionary approach to a subject.

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